



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,606	06/26/2003	Michael Powers	MKPA-104US	4917
23122	7590	03/26/2004	EXAMINER	
RATNERPRESTIA			SOUW, BERNARD E	
P O BOX 980			ART UNIT	
VALLEY FORGE, PA 19482-0980			PAPER NUMBER	
			2881	

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,606

Applicant(s)

POWERS, MICHAEL

Examiner

Bernard E Souw

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/26/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5, 9, 10, 14, 18 and 22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Verdiell (USPAT 6,207,950).

Regarding claims 1-5, Verdiell discloses a fiber-coupled optical component housing 10, as shown in Fig.1, comprising a substrate (32,12) having an optical component (16,18) mounted on mount 32 having an aperture (unlabeled) formed therein, as recited in Col.5/ll.30-37, and a substantially planar fiber mount 22 having a mounting region 30 (and/or 32) adjacent to the optical component mount aperture, as recited in Col.5/ll.16-43. Verdiell's device further comprises a metallic fiber-mount pad 28 formed on the substantially planar fiber mount region 30 and/or 32, one or more electrical contacts 50 and 50' formed on the housing 10, means for mounting a lid (40 and 38, the latter being misprinted as label 36 in Fig.1) on the housing, as recited in Col.5/ll.44-52 and can be seen in Fig.1. Furthermore, Verdiell's substrate 12 includes aluminum oxide ceramic (alumina), as recited in Col.5/ll.18-22.

► Claims 9 and 18 recite the same limitations as claim 1, claim 10 recites the same limitations as claim 2, and claims 14 and 22 recite the same limitations as claim 4. Therefore, claims 9, 10, 14, 18 and 22 are also anticipated by Verdiell.

2. Claims 1-4, 9, 10, 14, 15, 18, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Enochs et al. (USPAT 4,818,056).

Regarding claims 1-4, Enochs et al. disclose a fiber-coupled optical component housing, as indicated by the wall 14 shown in Fig.1 and recited in Col.3/ll.7-10, comprising a substrate 12 having an optical component mount aperture 16 formed therein, as shown in Fig.2, and a substantially planar fiber mount region 22 adjacent to the optical component mount aperture, as recited in Col.3/ll.1-26 and shown in Fig.1 and 2. Enochs's device further comprises a metallic fiber-mount pad 40 formed on the substantially planar fiber mount region 22, one or more electrical contacts 37 and 38 formed on the housing, and means for mounting a lid 64 on the housing, as shown in Fig.4 and recited in Col.4/ll.65-67, or lid 66 shown in Fig.6, as recited in Col.5/ll.3-6, respectively.

► Claims 9 and 18 recite the same limitations as claim 1, claim 10 recites the same limitations as claim 2, and claims 14 and 22 recite the same limitations as claim 4. Therefore, claims 9, 10, 14, 18 and 22 are also anticipated by Enochs et al..

► Regarding claims 15 and 23, Enochs's lid 66 is mounted to the housing 12 by means of epoxy, as recited by in Col.5/ll.3-8.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-8, 12, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdiell in view of Bartur et al. (USPAT 6,652,158).

Verdiell shows all the limitations of claims 6-8 as applied to claims 1-5 above, except for some specific limitations that are rendered obvious by Bartur et al., as discussed below.

Regarding claim 6, Verdiell's housing is mounted on a substrate 32 made of unspecified material. Bartur's housing material, including the substrate 32, is made of metal, which is known in the art as a high thermal conductivity material, as disclosed by Bartur et al. in Col.8/ll.34-37.

Regarding claims 7 and 12, Verdiell's optical component 18 (and 16) is secured to the base 12 within an area defined by the optical component mount aperture formed in substrate 32, as shown in Fig.1 and recited in Col.5/ll.24-29.

Regarding claims 8 and 13, Verdiell's optical fiber 22 is secured on the planar fiber mount 28 to optically couple the fiber 22 and the optical component 18 (and 16), as recited in Col.5/ll.31-37.

Claim 19 recites the same limitations as claim 7 and 8 combined. Therefore, claim 19 is rejected under the same ground and prior art as previously applied to claims 7 and 8.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bartur's metal as material for Verdiell's housing substrate 32, since the high thermal conductivity is good for dissipating heat generated in the optical component to the housing, as taught by Bartur et al. in Col.8/ll.30-34.

5. Claims 11, 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdiell in view of Panicker et al. (USPAT 6,623,180).

Verdiell shows all the limitations of claims 11, 15 and 23 as applied to claims 9 and 14 above, except the limitation of mounting (attaching) the lid to the housing by means of a metallized seal ring on the housing and securing the lid to the housing by epoxy or solder.

Attaching or mounting a (metal) lid to a housing by means of a (metal) seal ring that is soldered or epoxied to the housing is a conventional method well known in the art, as disclosed by Panicker et al. in Col.5/ll.4-9.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount a (metal) lid to a (metal) housing by means of a (metal) seal ring, since this method is conventional and well known in the art, as disclosed by Panicker et al.

6. Claims 16, 17, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdiell in view of Uchida (USPAT 5,535,296).

Verdiell shows all the limitations of claims 16, 17, 24 and 25 as applied to claims 14 and 22 above, except the limitation of sealing the fiber by filling gaps between the fiber and parts of the package using epoxy, solder or silicone.

Sealing a fiber by filling gaps between the fiber and the rest parts of the package with epoxy, solder or silicone is conventional and also well known in the art, as disclosed by Uchida in Col.13/ll.16-27 (claims 24 and 25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to sealing a fiber by the filling gaps between the fiber and the rest parts of the package with solder, since this method is conventional and well known in the art, as disclosed by Uchida.

7. Claims 5-8, 12, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enochs et al. in view of Lebby et al. (USPAT 5,228,101).

Enochs et al. show all the limitations of claims 5-8 as applied to claims 1-4 above, except for specific limitations that are rendered obvious by Lebby et al., as discussed below.

However, Enochs's substrate 12 (having an aperture 16) is not made of ceramic as recited in Applicant's claim 5, but of plastic or metal, as recited in Col.3/ll.10-13. Lebby et al. teach that for a fiber-coupled optical component housing a substrate can be made of metal as well as ceramic, as recited in Col.4/ll.43-50.

Regarding claim 6, Enochs's housing is mounted on a substrate 12 made of metal, as recited in Col.3/ll.10-13.

Regarding claims 7 and 12, Enochs's optical component 30 is secured to the base 12 within an area defined by the optical component mount aperture 22 formed in substrate, as shown in Fig.1 and recited in Col.3/ll.27-31.

Regarding claims 8 and 13, Enochs's optical fiber 26 shown in Fig.2 is secured on the planar fiber mount 22 to optically couple the fiber 26 and the optical component 30, as recited in Col.3/ll.15-21.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ceramic as material for Enochs's housing substrate 12, since the low thermal expansion coefficient of ceramic is good for achieving high accuracy and high stability of the fiber alignment to the optical component, as generally known in the art.

► Claim 19 recites the same limitations as claim 7 and 8 combined. Therefore, claim 19 is obvious over Enochs in view of Lebby, as previously applied to claims 7 & 8.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enochs et al. in view of Panicker et al..

Enochs et al. show all the limitations of claim 11 as applied to claim 9 above, except for the specific limitation of mounting (attaching) the lid to the housing by means of a metallized seal ring.

Attaching or mounting a (metal) lid to a housing by means of a (metal) seal ring that is soldered or epoxied to the housing is a conventional method well known in the art, as disclosed by Panicker et al. in Col.5/II.4-9.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount Enochs's (metal) lid to Enochs's (metal) housing by means of a (metal) seal ring, in order to form a Faraday cage that will protect the electronics, opto-electronics and/or electro-optic devices mounted inside the housing from external electromagnetic fields.

9. Claims 16, 17, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enochs et al. in view of Uchida (USPAT 5,535,296).

Enochs et al. show all the limitations of claims 16, 17, 24 and 25 as applied to claims 14 and 22 above, except the limitation of sealing the fiber by filling gaps between the fiber and parts of the package using epoxy, solder or silicone.

Sealing a fiber by filling gaps between the fiber and the rest parts of the package with epoxy, solder or silicone is conventional and also well known in the art, as disclosed by Uchida in Col.13/II.16-27 (claims 24 and 25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to sealing a fiber by the filling gaps between the fiber and the rest parts of the package with solder, in order to have a coupling device that is shock-resistant.

Other Applicable Prior Art References

10. It is to be noted that besides Verdiell's and Enochs's references applied above, there are other prior art references that also anticipate Applicant's claims; e.g., Knapp et al. (USPAT 5,768,456), Nakagawa et al. (USPAT Appl. Pub. 2001/0010742 A1), Ladany (USPAT 4,237,474), Shigeno (USPAT 5,227,646) and Sizer, II et al., (USPAT 5,345,529).

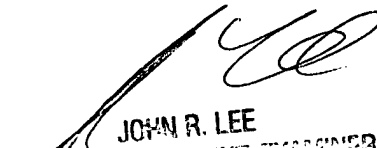
Communications

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571 272 2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

bes
March 19, 2004


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800